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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/661,847	09/12/2003	Charles Edward Boardman	24-AT-135243	8534

7590 10/16/2008  
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EXAMINER
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GREENE, DANIEL LAWSON

ART UNIT	PAPER NUMBER
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3694

MAIL DATE	DELIVERY MODE
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10/16/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/661,847	<b>Applicant(s)</b> BOARDMAN ET AL.	
	<b>Examiner</b> DANIEL L. GREENE	<b>Art Unit</b> 3694	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 12 June 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-4,6-8,10,11,13 and 15-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4,6-8,10,11,13 and 15-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Response to Amendment***

1. Claims 1-4, 6-8, 10, 11, 13 and 15-20 are pending. In the response received 6/12/2008, independent claims 1 and 13 were amended, Figure 8 was cancelled and those parts of the specification referencing Figure 8 were removed. An action on the merits of pending claims 1-4, 6-8, 10, 11, 13 and 15-20 follows.

### ***Drawings and Specification***

2. The cancellation of Figure 8 and supporting text within the specification obviates the rejection set forth in sections 9 and 10 of the previous Office action mailed 12/12/2007. Accordingly said rejections are withdrawn.

### ***Response to Arguments***

3. Applicant's arguments, see pages 9-13, filed 6/12/2008, with respect to the rejections set forth in sections 11 and 12 of the previous Office action mailed 12/12/2007 have been fully considered and are persuasive because of the exact location of the grooves being claimed. Therefore, those rejections have been withdrawn.

4. However, Applicant's arguments with regard to section 13 of said previous Office action have been fully considered but they are not persuasive. Accordingly, said rejection is maintained and incorporated herein by reference as expounded upon immediately below.

#### **Applicant argues on page 16, last paragraph:**

“Therefore, combining the teachings of Naka et al. and Sodergard with the teachings of Challberg does not describe nor suggest "a plurality of removable

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support plates disposed on said plurality of support beams, each said removable support plate comprising a top surface, an opposing bottom surface, opposing sides, and a center axis extending through said opposing sides, and at least one groove in said bottom surface, each said groove extending along said bottom surface at a 45 degree angle with respect to said center axis, and sized to receive a portion of one of said support beams" as recited in independent Claims 1 and 13. Accordingly, Applicants submit that independent Claims 1 and 13 are patentable over Challberg in combination with Sodergard and Naka et al."

**Response:**

First, Applicant's arguments are unpersuasive as applicant has not shown that the references do not teach what the examiner has stated they teach, nor has applicant shown that the examiner's reasoning for and manner of combining the teachings of the references is improper or invalid.

Second, the similarities between Figure 3 of Challberg and Figures 4 and 5 (next page) of the instant application cannot be disregarded.

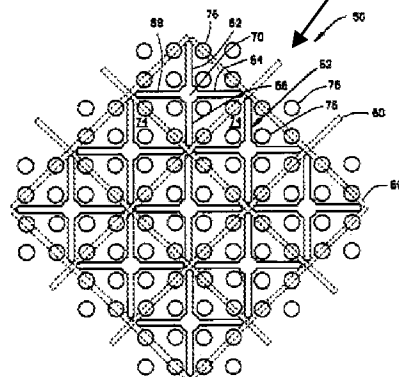


FIG. 3

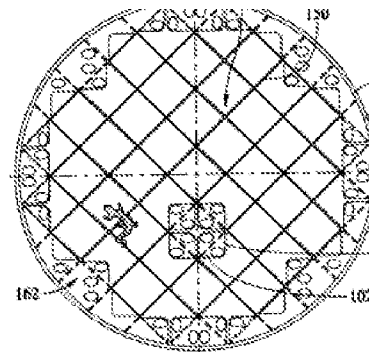


FIG. 4

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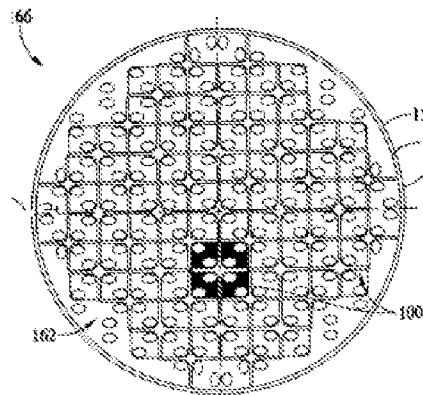


FIG. 5

Clearly it is considered well within the skill of one of ordinary skill in the art to separate the integral support plate of Challberg in a myriad of ways for the benefits already of record. For example, looking at figure 3 and applying case law, one could easily subdivide or cut the plate apart in the manner set forth immediately below.

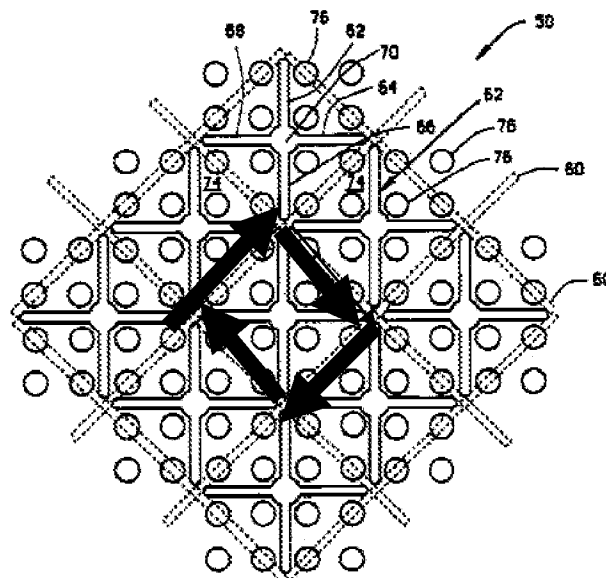
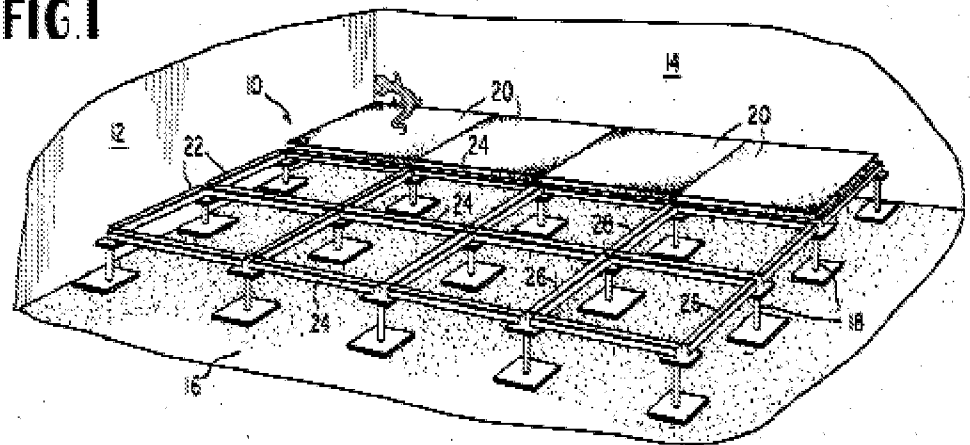
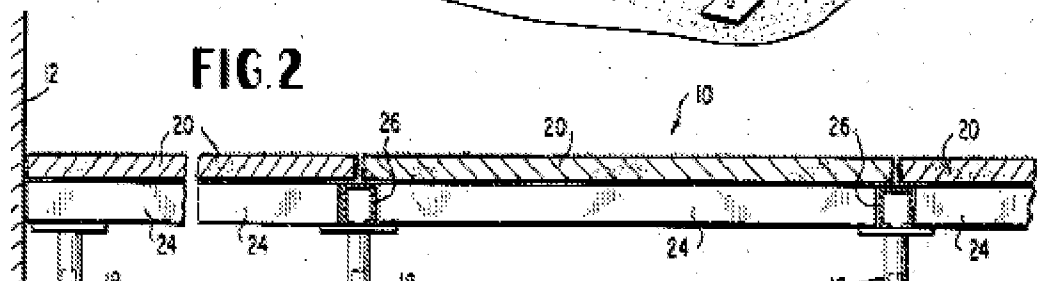


FIG. 3

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This type of separation of parts appears to most directly reflect a modification from the secondary references by placing the groove around the outside edge of each individual segment (support block) to engage the underlying support grid, much like a ceiling or floor tile such as from Bettingers Figures 1 and 2.

**FIG. 1****FIG. 2**

However, it is noted that applicant did not separate the integral support plate in the same manner, instead, applicant separated the plate along a different line as illustrated immediately below:

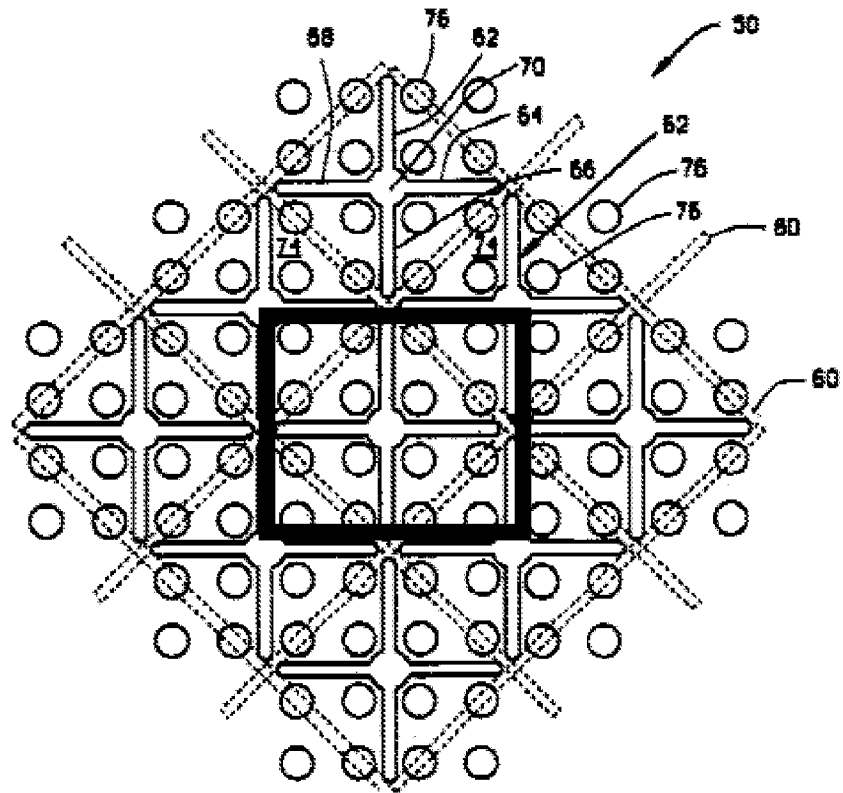


FIG. 3

The separation of the integral support plate in to multiple individual support plates in this manner would clearly be well within one of ordinary skill in the art because the end result is the same, i.e. the integral plate has been subdivided into smaller units but together they still support the same function as the integral plate itself, i.e. support the reactor fuel assemblies.

As one can see, the separation into individual squares is a design choice as to the direction of the squares (or other examples of arrangements (hexagons, etc.)

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set forth in the prior art.) As such it would have been obvious to separate the integral support plate in the manner proposed by applicant.

The use of grooves to maintain placement of separate pieces of an integral structure is old and well known and has already been made of record.

Accordingly it would have been obvious to one of ordinary skills to use grooves in the manner set forth in the claims by cutting the integral structural support of Challberg apart as show immediately above for the benefit of keeping each individual piece in place. Separating the parts of Challberg in such a manner and applying the use of grooves to maintain alignment would mean that grooves would be located along the dotted lines shown in Figure 3 of Challberg.

The location of the groove is what appears to be the alleged patentable feature of the invention. The Examiner disagrees for at least the reasons already of record as well as those set forth above. Again it is the Examiners position that it is well within the skill of an ordinary person in the art to look at the prior art of Challberg, Bettinger, Naka et al., etc. to arrive at the instant invention.

### ***Claim Rejections - 35 USC § 103***

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

**6. Claims 1-4, 6-8, 10, 11, 13 and 15-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,813,327 to Challberg in view of U.S. Patent 3,650,895 to**



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**Sodergard and further in view of U.S. Patent 4,922,670 to Naka et al. for the reasons set forth in section 13 of the previous Office action mailed 12/12/2007 which in turn refers back to section 11 of the previous Office action mailed 4/27/2006 as further expounded upon in section 4 above.**

**7. Claims 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,813,327 to Challberg in view of U.S. Patent 3,650,895 to Sodergard and further in view of U.S. Patent 4,922,670 to Naka et al. as applied to claims 1-4, 6-8, 10, 11, 13 and 15-18 above and further in view of U.S. Patent 5,519,746 to Dalke et al. for the reasons set forth in section 14 of the previous Office action mailed 12/12/2007 which in turn refers top section 12 of the previous Office action mailed 4/27/2006.**

Applicant proffered no argument about what Dalke teaches with regard to dependent claims 19 and 20. Merely that the base references failed to disclose all the limitations of the independent claims 1 and 13.

Accordingly the rejection is still pertinent as the Examiner has shown how the base references do indeed read on the claimed invention as set forth above.

### ***Conclusion***

**8. THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to DANIEL L. GREENE whose telephone number is (571)272-6876. The examiner can normally be reached on Mon-Thur.

10. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James P. Trammell can be reached on (571) 272-6712. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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11. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/D. L. G./

Examiner, Art Unit 3694

2008-10-12

/Mary Cheung/

Primary Examiner, Art Unit 3694